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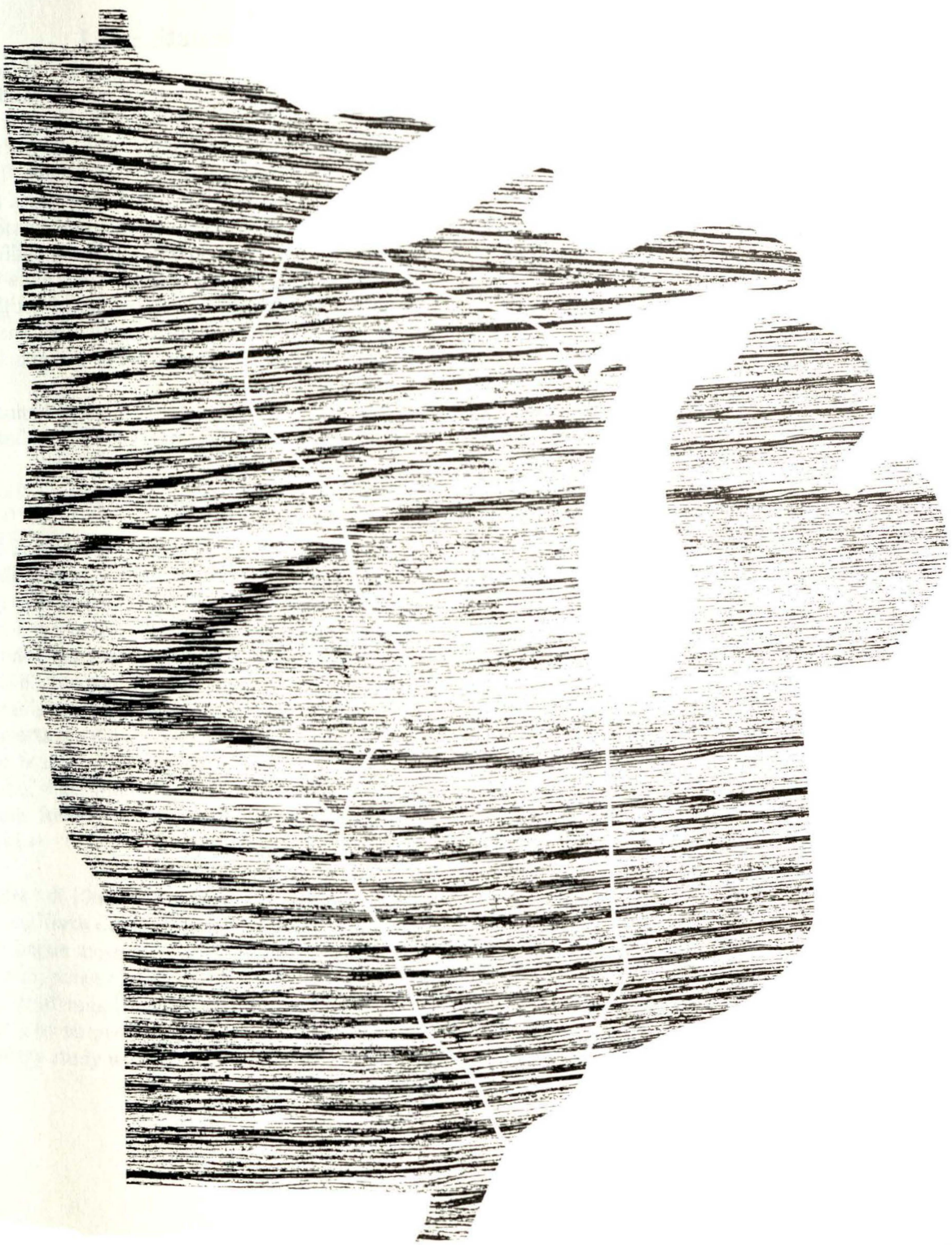
Veneer Industry and Timber Use, North Central Region, 1984

James E. Blyth and W. Brad Smith



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VENEER INDUSTRY AND TIMBER USE, NORTH CENTRAL REGION, 1984

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HIGHLIGHTS

Lake States

- Lake States loggers harvested 60.5 million board feet of veneer logs in 1984, down 6 percent from 1980 when the last veneer industry study was made. Principal production declines since 1980 were in aspen, elm, and white oak. Log exports to other States and Canada reached a record high 13.7 million board feet.
- Twenty-eight Lake States veneer mills received 50.2 million board feet of logs in 1984, off 14 percent from 1980. Imports from seven States and Canada climbed after hitting a 35-year low in 1980.
- More than 98 percent of the wood and bark residue generated at Lake States mills in 1984 was used.

Central States

- Central States veneer log production in 1984 was 22.1 million board feet, up 1 percent from 1980. Leading species cut were white oak, walnut, and red oak. Exports from the Central States climbed 87 percent from 1980 to 5.7 million board feet.
- From 1980, veneer log receipts at 23 Central States mills rose 1 percent to 33.2 million board feet. Imports of 16.8 million board feet came from 18 other States.
- Disposal of wood and bark residue at mills was not a problem. Industrial fuel was the leading use for this residue.

This report of 1984 veneer log production and receipts in the North Central Region is a continuation of a series begun more than 28 years ago. On a total volume basis, veneer logs are the third most valuable industrial roundwood product harvested, outranked only by pulpwood and saw logs. The last veneer industry study was in 1980.

Current detailed veneer log production[1] and receipt information is necessary for intelligent planning and decisionmaking in wood procurement, forest resource management, and forest industry development. In addition, researchers need veneer log harvest and receipt information for planning projects and for analyzing and appraising the veneer industry.

All known veneer mills in the United States and Canada using North Central States timber reported their veneer log receipts in 1984 by species groups and State of origin. For the wood and bark residue they generated in 1984, they reported (in percent) the disposal of coarse wood residue (chippable), fine wood residue, and bark in six disposal categories. Their cooperation is gratefully acknowledged. Data were collected, using a formal questionnaire, in a cooperative effort by this Station, the Northeastern Forest Experiment Station, and the Indiana Department of Natural Resources. Data are not shown for logs exported to countries other than Canada.

All board feet data in this report have been converted to International 1/4-inch scale by applying a multiplier of 1.14 to all log volumes reported by veneer mills in Doyle scale and applying a multiplier of 1.04 to all log volumes reported by mills in Scribner Dec. C Scale. To convert to Doyle log scale, multiply the International scale volume by 0.8772. To convert to Scribner Dec. C log scale, multiply the International scale volume by 0.9615.

This report presents the results of the survey, analyzes and interprets the data where appropriate, compares the results with 1980 or earlier years, and discusses trends in veneer log production and use. After a brief national overview, the report is divided

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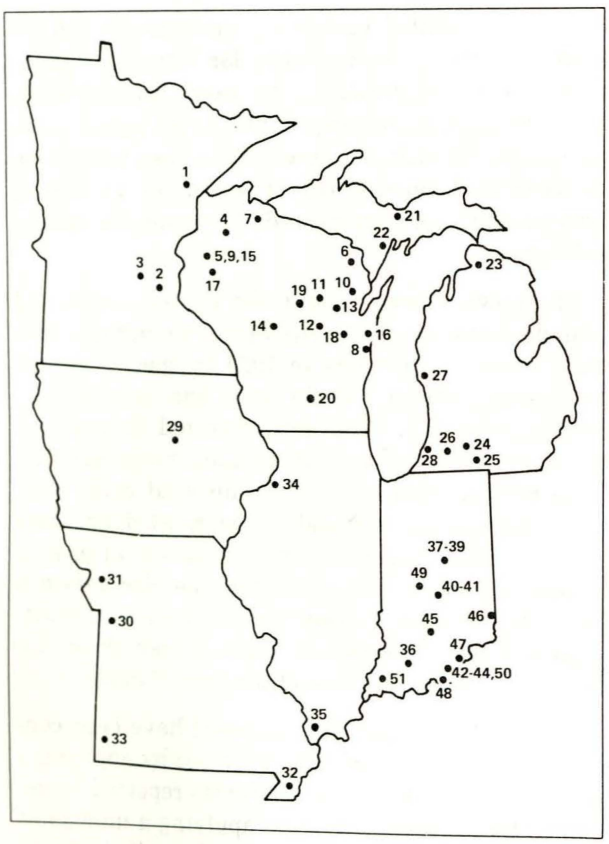
[1]*Production is the volume of veneer logs cut from a specific area; receipts are the volume of veneer logs received by mills in a specific area regardless of geographic source.*

into two sections—Lake States (Michigan, Minnesota, and Wisconsin) and Central States (Illinois, Indiana, Iowa, and Missouri)—because different species are grown and used as veneer logs in each area.

Fifty-one veneer mills operated in the region in 1984, one more than in 1980 (fig. 1). Between 1980 and 1984 two mills closed and three new mills opened. Wisconsin and Illinois each had a net gain of one mill; Michigan had a net loss of one mill.



MINNESOTA		
Number	Name of mill	Location
1	Diamond Match Co.	Cloquet
2	Allen Wood Products, Inc.	Henderson
3	Elk River Box Company	Elk River
	WISCONSIN	
4	Birchwood Lumber & Veneer Co.	Birchwood
5	Birchwood Mfg. Co.	Rice Lake
6	Goodman Forest Ind. Ltd.	Goodman
7	Louisiana-Pacific Corp.	Mellen
8	Eggers Industries	Two Rivers
9	Brunette Ind. Wood Prod.	Rice Lake
10	Linwood, Inc.	Gillett
11	Wisconsin Timber & Land Co.	Matoon

NATIONAL OVERVIEW

National hardwood plywood production in 1984 fell 2 percent below 1983, and fell 6 percent below 1980 to 1.227 million square feet[2] surface measure.

Housing starts in 1984 climbed 2.4 percent above 1983 to 1,744,700 units, the highest total since 1979.

[2]*Source: U.S. Department of Commerce, Bureau of the Census. Current Industrial Report Series MA-24F.*

WISCONSIN		
Number	Name of mill	Location
12	Marion Plywood Corp.	Marion
13	Weber Veneer & Plywood Co.	Shawano
14	Weyerhaeuser Co.	Marshfield
15	Brunette Box & Veneer	Rice Lake
16	Dufeck Mfg. Co.	Denmark
17	Ebner Box Factory	Cameron
18	Seymour Woodenware Co.	Seymour
19	Hatley Veneer Co.	Hatley
20	Fox-Haase Mfg. Inc.	De Forest
	MICHIGAN	
21	Cliffs Forest Products Co.	Munising
22	Anthony & Co.	Escanaba
23	Manthei Bros.	Petosky
24	A. C. Hensel Mfg. Co.	Augusta
25	International Veneer Co.	Coldwater
26	Fruit Growers Package Co.	Paw Paw
27	Michigan Crate & Basket	Shelby
28	Riverside Package Co.	Riverside
	IOWA	
29	R. S. Bacon Veneer Co.	Grundy Center
	MISSOURI	
30	Pleasant Hill Veneer Corp.	Pleasant Hill
31	Missouri Valley Walnut Co.	St. Joseph
32	Tipton Box Co.	Caruthersville
33	Crumbliss Wood Products	Neosho
	ILLINOIS	
34	Swords Veneer & Lumber Co.	Rock Island
35	Lawrence Box & Basket	Cobden
	INDIANA	
36	Jasper Veneer Mills	Jasper
37	Central Veneer Co., Inc.	Indianapolis
38	Curry-Miller Veneers, Inc.	Indianapolis
39	Indiana Veneers, Inc.	Indianapolis
40	David R. Webb Co.	Edinburg
41	Amos-Hill Veneer Co.	Edinburg
42	B. L. Curry & Sons	New Albany
43	Chester B. Stem, Inc.	New Albany
44	Adams Custom Veneer Co.	New Albany
45	National Veneer & Lumber Co.	Seymour
46	Pierson-Hollowell Co., Inc.	Lawrenceburg
47	Roberts & Strack Veneer Co.	Clarksville
48	Norstram Veneers	Mauckport
49	Theising Veneer Co., Inc.	Mooresville
50	New Albany Box & Basket Co., Inc.	New Albany
51	Evansville Veneer Co.	Evansville

Figure 1.—*Location of active veneer mills in the North Central Region, 1984.*

In 1980, only 1,328,000 housing units were started. Housing starts are a major indicator of hardwood plywood demand in interior walls, kitchen and vanity cabinets, flush doors, flooring, and furniture.

Domestic producers are concerned about hardwood plywood imports. Japan was the largest exporter of hardwood plywood to the U.S. 25 years ago, and Korea was the leader 15 years ago. During the last 5 years Indonesia became the largest hardwood plywood exporter to the U.S. In 1980 Indonesia had only 29 hardwood plywood mills, compared with 95 mills in 1984; installed capacity rose 173 percent during this period. Indonesia has begun to manufacture door skins, and may become the primary supplier of skins to the American flush door industry.

LAKE STATES

Production

During 1984 loggers cut 60.5 million board feet of veneer logs in the Lake States, down 3.7 million board feet from 1980. Sixty-two percent of the volume was supplied by three species:

Species	Million board feet
Red oak	16.9
Hard maple	12.3
Aspen	8.3

Major production declines since 1980 were in aspen (12.0 million board feet), elm (2.8 million board feet), and white oak (2.3 million board feet). Elm production continued to fall because Dutch elm disease has wiped out much of the Lake States elm resource. Output of red oak climbed 6.2 million board feet from 1980 to a record 16.9 million board feet. Demand for ash was the highest in more than 30 years.

Log exports rose to a record 13.7 million board feet. By volume, principal export markets were:

Destination	Million board feet
Canada	8.5
Ohio	2.1
Indiana	1.8

Illinois, Iowa, Missouri, Kentucky, and West Virginia received the remaining export log volume.

Michigan producers cut 31.8 million board feet of veneer logs, a decline of 14 percent since 1976, but more than half of the total Lake States output. Hard maple, red oak, and pine accounted for 71 percent of the Michigan harvest. Pine harvesting surged from 240,000 board feet in 1980 to 6.4 million board feet in 1984 because of new market opportunities. Closure of a mill was a major reason for aspen output falling from 20.0 million board feet in 1980 to 270,000 board feet in 1984. Out-of-State markets took nearly two-thirds of Michigan's output. Pine, hard maple, and red oak were the dominant species shipped out-of-State.

Red oak and aspen accounted for more than three-fifths of Wisconsin's harvest of 23.0 million board feet. Exports to Michigan from Wisconsin were nominal compared to one-quarter of the harvest shipped to Michigan in 1980. Total production increased 2.1 million board feet from 1980.

Principal species cut in Minnesota were aspen (2.9 million board feet) and red oak (1.6 million board feet). Together they accounted for more than three-fourths of the total Minnesota harvest of 5.7 million board feet.

Mill Receipts

Lake States veneer mills received 50.2 million board feet of logs in 1984, down 8.5 million board feet from 1980. Major declines in receipts were in aspen, elm, and hard maple. Imports rose after hitting a 35-year low in 1980 and after falling for all reported years since 1966. However, imports from Canada fell to a nominal level.

Michigan receipts at eight mills plunged to about one-half the level in 1980, partially as a result of a major mill closure. The Michigan decline was concentrated in aspen. In the Minnesota-Wisconsin area, receipts climbed by 5 million board feet from 1980; gains were mainly in aspen and red oak.

Mill Residue[3]

More than 98 percent of the mill residue generated in each class (coarse, fine, and bark) during 1984 was used. Coarse residue was used mainly for industrial fuel (45 percent), domestic fuel (26 percent), and miscellaneous products such as small dimension and specialty items (23 percent). Industrial fuel was the primary use for fine residue and bark.

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[3]*Mill residue generated at veneer mills is classed as: (1) bark; (2) coarse (wood)—suitable for chipping, such as veneer cores; (3) fine (wood)—not suitable for chipping such as veneer clippings.*

Industry Outlook

Lake States veneer log production will depend heavily on the strength of the new housing and remodeling industries, the strength of the American dollar, the ability of foreign plywood producers to compete in our markets, the degree of competitive inroads by the flakeboard industry, and the ability of Lake States veneer mills to control their production costs and find market niches for specialty veneers. Lake States veneer log production will probably remain near current levels during the next 2 or 3 years if our gross national product (GNP) has real annual growth of 2 to 4 percent.

As pine plantations mature in the Lake States, use of pine for veneer may continue to increase. Demand for veneer in containers is likely to continue dropping.

CENTRAL STATES

Production

Central States loggers cut 22.1 million board feet of veneer logs in 1984, up 1 percent from 1980 and the second lowest annual recorded harvest in the last 29 years.

Three species furnished three-fourths of the volume:

Species	Million board feet
White oak	7.6
Walnut	5.2
Red oak	4.0

After falling to 1.3 million board feet in 1970, red oak output has risen steadily (except in 1980) and is one of the preferred species for furniture. Walnut output in 1984 was about one-third of the peak production in 1968, when it was in high demand for furniture. Cottonwood and soft maple veneer log production remained low; both are container veneer species.

Major production changes between 1980 and 1984 were:

Species	Thousand board feet
White oak	−1,020
Red oak	+580
Cottonwood	+544

Exports expanded 87 percent from 1980 to 5.7 million board feet; primary purchasers were in Ohio (51 percent), Wisconsin (22 percent), and Michigan (16 percent).

Indiana supplied three-fifths of the Central States veneer log harvest, and 73 percent of the Indiana log volume remained in the State. Each of the other States cut between 2.1 and 3.3 million board feet. Indiana production increased 24 percent from 1980, Missouri production increased nominally, and production dropped in Illinois and Iowa.

Red oak and walnut output was more concentrated in Indiana in 1984 than in 1980. Missouri increased its share of the cottonwood harvest.

Mill Receipts

Twenty-three Central States veneer mills received 33.2 million board feet of veneer logs in 1984, up 1 percent from the 1980 total. Eighteen States, from all areas except the Far West, supplied 16.8 million board feet of logs to the Central States. Kentucky, Pennsylvania, and Onio each furnishing more than 2 million board feet. Major imports included white oak from Tennessee, Kentucky, and Ohio; red oak from Pennsylvania, Michigan, and Kentucky; pecan from Louisiana; and black cherry from Pennsylvania. Other States furnishing veneer logs were Wisconsin, Oklahoma, Arkansas, Mississippi, Texas, Kansas, Minnesota, Alabama, Virginia, New York, Maryland, and Nebraska.

Indiana's 16 veneer mills consumed 84 percent of the veneer log receipts in the Central States, including more than 90 percent each of the ash, black cherry, hard maple, pecan, soft maple, yellow-poplar, and sycamore.

Mill Residue

Wood and bark residue have not been a disposal problem since 1974. Ninety-six percent of the coarse wood residue, 87 percent of the fine wood residue, and 97 percent of the bark were used in 1984. Industrial fuel continued to be the leading use for each residue category; other uses were in pulp manufacturing, mulch, livestock bedding, and domestic (household) fuel.

Industry Outlook

Most factors affecting future hardwood veneer log output in the Lake States will also affect future output in the Central States. Foreign competition is likely to be a major threat to Central States veneer mills. Container veneer log markets were stronger in 1984 than in 1980, but will continue to face severe competition from plastics and other substitutes.

Table 1.--Production and imports of veneer logs, Lake States, 1984

(In thousand board feet)[1/]

Species and destination	Total receipts[3/]	Production by States[2/]				Imports		
		Michigan	Minnesota	Wisconsin	Regional total	Other U.S.	Canada	Total imports
Pine								
Minnesota-Wisconsin	162	110	--	52	162	--	--	--
Exported[4/]	--	6,287	--	--	6,287	--	--	--
Total	162	6,397	--	52	6,449	--	--	--
Ash								
Michigan	824	824	--	--	824	--	--	--
Minnesota-Wisconsin	655	313	40	271	624	31	--	31
Exported[4/]	--	53	--	5	58	--	--	--
Total	1,479	1,190	40	276	1,506	31	--	31
Aspen								
Michigan	114	114	--	--	114	--	--	--
Minnesota-Wisconsin	8,143	156	2,897	5,090	8,143	--	--	--
Total	8,257	270	2,897	5,090	8,257	--	--	--
Basswood								
Michigan	269	269	--	--	269	--	--	--
Minnesota-Wisconsin	2,198	147	295	1,615	2,057	141	--	141
Total	2,467	416	295	1,615	2,326	141	--	141
Beech								
Michigan	262	262	--	--	262	--	--	--
Minnesota-Wisconsin	278	230	--	48	278	--	--	--
Exported[4/]	--	235	--	--	235	--	--	--
Total	540	727	--	48	775	--	--	--
Black cherry								
Michigan	170	71	--	--	71	99	--	99
Minnesota-Wisconsin	6	--	--	6	6	--	--	--
Exported[4/]	--	135	--	22	157	--	--	--
Total	176	206	--	28	234	99	--	99
Butternut								
Exported[4/]	--	--	--	1	1	--	--	--
Total	--	--	--	1	1	--	--	--
Cottonwood								
Michigan	456	399	--	--	399	57	--	57
Minnesota-Wisconsin	595	--	429	166	595	--	--	--
Total	1,051	399	429	166	994	57	--	57
Elm								
Michigan	6	6	--	--	6	--	--	--
Minnesota-Wisconsin	418	104	--	314	418	--	--	--
Exported[4/]	--	32	22	42	96	--	--	--
Total	424	142	22	356	520	--	--	--
Hard maple								
Michigan	4,168	4,168	--	--	4,168	--	--	--
Minnesota-Wisconsin	6,625	4,157	26	2,417	6,600	25	--	25
Exported[4/]	--	1,445	--	41	1,486	--	--	--
Total	10,793	9,770	26	2,458	12,254	25	--	25
Paper birch								
Michigan	827	820	--	7	827	--	--	--
Minnesota-Wisconsin	508	262	69	177	508	--	--	--
Exported[4/]	--	112	--	--	112	--	--	--
Total	1,335	1,194	69	184	1,447	--	--	--

(Table 1 continued on next page)

(Table 1 continued)

Species and destination	Total receipts[3]	Production by States[2]				Imports		
		Michigan	Minnesota	Wisconsin	Regional total	Other U.S.	Canada	Total imports
Pecan								
Minnesota-Wisconsin	34	--	--	3	3	31	--	31
Exported[4]	--	4	--	--	4	--	--	--
Total	34	4	--	3	7	31	--	31
Red oak								
Michigan	2,869	2,113	520	104	2,737	132	--	132
Minnesota-Wisconsin	12,177	2,270	960	8,078	11,308	811	58	869
Exported[4]	--	2,034	87	757	2,878	--	--	--
Total	15,046	6,417	1,567	8,939	16,923	943	58	1,001
Soft maple								
Michigan	274	274	--	--	274	--	--	--
Minnesota-Wisconsin	1,486	75	81	1,299	1,455	31	--	31
Exported[4]	--	--	--	17	17	--	--	--
Total	1,760	349	81	1,316	1,746	31	--	31
Sycamore								
Michigan	97	80	--	--	80	17	--	17
Total	97	80	--	--	80	17	--	17
Walnut								
Michigan	105	29	--	--	29	76	--	76
Exported[4]	--	221	2	205	428	--	--	--
Total	105	250	2	205	457	76	--	76
White oak								
Michigan	1,953	315	--	--	315	1,638	--	1,638
Minnesota-Wisconsin	300	19	47	79	145	155	--	155
Exported[4]	--	646	--	228	874	--	--	--
Total	2,253	980	47	307	1,334	1,793	--	1,793
Yellow birch								
Michigan	1,320	1,285	--	35	1,320	--	--	--
Minnesota-Wisconsin	2,837	1,542	250	964	2,756	--	81	81
Exported[4]	--	42	--	46	88	--	--	--
Total	4,157	2,869	250	1,045	4,164	--	81	81
Yellow poplar								
Michigan	23	23	--	--	23	--	--	--
Total	23	23	--	--	23	--	--	--
Other hardwoods								
Exported[4]	--	70	--	900	970	--	--	--
Total	--	70	--	900	970	--	--	--
All species								
Michigan	13,737	11,052	520	146	11,718	2,019	--	2,019
Minnesota-Wisconsin	36,422	9,385	5,094	20,579	35,058	1,225	139	1,364
Exported[4]	--	11,316	111	2,264	13,691	--	--	--
Total	50,159	31,753	5,725	22,989	60,467	3,244	139	3,383

[1] International 1/4-inch rule.

[2] Vertical columns of figures under box heading "Production by States" present the amount of veneer logs cut in each State.

[3] Production minus exports plus imports.

[4] Veneer logs shipped to States outside the Lake States and to Canada.

Table 2.--Veneer log production and receipts in the Lake States by species, 1980 and 1984

(In thousand board feet)[1/]

Species	Production			Receipts		
	1980	1984	Change	1980	1984	Change
Pine	240	6,449	6,209	240	162	-78
Ash	831	1,506	675	805	1,479	674
Aspen	20,245	8,257	-11,988	19,958	8,257	-11,701
Basswood	2,072	2,326	254	2,100	2,467	367
Beech	1,107	775	-332	1,050	540	-510
Black cherry	229	234	5	77	176	99
Cottonwood	1,322	994	-328	1,254	1,051	-203
Elm	3,323	520	-2,803	2,130	424	-1,706
Hard maple	12,756	12,254	-502	11,941	10,793	-1,148
Paper birch	1,569	1,447	-122	1,476	1,335	-141
Red oak	10,687	16,923	6,236	9,749	15,046	5,297
Soft maple	1,457	1,746	289	1,481	1,760	279
Walnut	328	457	129	114	105	-9
White oak	3,647	1,334	-2,313	1,953	2,253	300
Yellow birch	4,151	4,164	13	4,408	4,157	-251
Other hardwoods	177	1,081	904	0	154	154
All species	64,141	60,467	-3,674	58,736	50,159	-8,577

[1/] International 1/4-inch rule.

Table 3.--Veneer log production by species group for selected years, Lake States, 1946-1984

(In million board feet)[1/]

Year	All species	Species group													
		Ash	Aspen	Bass-wood	Beech	Yellow birch	Cotton-wood	Elm	Hard maple	Soft maple	Red oak	White oak	Paper birch	Walnut	Other species
1946	110.6	2.3	4.0	10.4	5.6	[2/]26.8	0.4	16.6	[3/]40.3	--	[4/]3.1	--	--	--	1.1
1952	78.2	--	1.4	10.4	3.1	[2/]18.2	--	11.5	[3/]23.8	--	[4/]5.1	--	--	--	[5/]4.7
1954	72.0	.8	.3	9.2	3.2	[2/]17.3	2.7	10.5	[3/]20.9	--	[4/]5.5	--	--	--	1.6
1956	79.0	.7	.8	10.3	5.7	[2/]20.3	2.1	9.6	20.1	3.7	[4/]4.5	--	--	0.3	.9
1958	52.7	.6	1.7	7.1	1.8	[2/]13.1	2.2	8.9	9.7	2.2	[4/]4.8	--	--	.2	.4
1960	54.0	1.0	2.1	6.2	1.0	[2/]14.1	1.9	5.1	10.9	2.9	[4/]7.6	--	--	.6	.6
1963	50.5	.6	1.5	6.6	.3	[2/]10.9	.4	5.7	10.5	2.2	[4/]8.9	--	--	2.3	.6
1965	51.7	.7	.6	6.0	.5	[2/]11.3	1.4	6.3	11.8	1.8	[4/]9.0	--	--	.9	1.4
1966	50.9	1.1	.7	4.5	.5	[2/]9.5	1.4	5.7	13.1	1.5	9.1	0.3	--	1.5	2.0
1968	45.5	1.0	.6	3.6	.5	8.3	1.4	5.4	9.4	1.2	8.2	.5	1.9	1.7	1.8
1970	34.4	.4	1.3	3.2	.3	4.4	1.3	3.8	8.8	.8	6.8	.3	1.2	.6	1.2
1972	42.2	.6	2.6	2.9	1.1	5.2	1.3	5.1	9.2	1.0	9.7	.3	1.2	1.4	.6
1974	68.7	.9	24.2	2.4	.7	4.2	1.8	6.1	11.7	2.0	11.1	.6	1.3	1.0	.7
1976	69.6	1.0	21.8	2.1	1.2	4.5	1.4	6.7	14.0	1.1	11.8	.7	1.2	.7	1.4
1980	64.1	0.8	20.2	2.1	1.1	4.2	1.3	3.3	12.8	1.5	10.7	3.6	1.6	.3	.6
1984	60.5	1.5	8.3	2.3	.8	4.2	1.0	.5	12.3	1.7	16.9	1.3	1.4	.5	7.8

[1/] International 1/4-inch rule.

[2/] Includes paper birch.

[3/] Includes soft maple.

[4/] Includes white oak.

[5/] Includes ash and cottonwood.

Table 4.--Lake States veneer log production, receipts, exports and imports for selected years, 1946-1984

(In million board feet)[1/]

Year	Produced in the Lake States and received at Lake States mills	Exported[2/]	Imported[3/]	Total production in Lake States	Total receipts in Lake States
1946	109.7	0.9	5.9	110.6	115.6
1948	116.0	.8	12.0	116.8	128.0
1950	86.0	.6	15.7	86.6	101.7
1952	77.8	.4	12.1	78.2	89.9
1954	71.6	.4	12.1	72.0	83.7
1956	78.7	.3	13.4	79.0	92.1
1958	51.5	1.2	6.0	52.7	57.5
1960	51.9	2.1	12.5	54.0	64.4
1963	45.0	5.5	7.7	50.5	52.7
1965	49.0	2.7	7.6	51.7	56.6
1966	45.8	5.1	9.6	50.9	55.4
1968	39.7	5.8	7.9	45.5	47.6
1970	31.4	3.0	5.6	34.4	37.0
1972	37.7	4.5	4.6	42.2	42.3
1974	63.4	5.3	4.1	68.7	67.5
1976	63.3	6.3	3.0	69.6	66.3
1980	56.6	7.5	2.1	64.1	58.7
1984	46.8	13.7	3.4	60.5	50.2

[1/] International 1/4-inch rule.

[2/] From Lake States to other States and Canada

[3/] From other States and Canada into Lake States.

Table 5.--Veneer log receipts in the Lake States by species group for selected years, 1952-1984

(In million board feet)[1/]

Year	All species	Species group												
		Ash	Aspen	Bass-wood	Beech	Yellow birch	Cotton-wood	Elm	Hard maple	Soft maple	Red oak	White oak	Paper birch	Other species
1952	89.9	--	1.4	10.9	3.2	[2/]27.1	--	11.7	[3/]24.9	--	[4/]5.3	--	--	[5/]5.4
1954	83.7	0.8	.3	10.3	3.2	[2/]25.0	2.7	10.9	[3/]22.4	--	[4/]6.5	--	--	1.6
1956	92.1	.7	.8	10.6	5.7	[2/]28.5	3.0	10.2	21.9	4.7	[4/]5.0	--	--	1.0
1958	57.5	.6	1.7	7.3	1.8	[2/]17.2	2.2	9.2	9.6	2.5	[4/]5.0	--	--	.4
1960	64.4	1.1	2.1	6.8	.9	[2/]18.9	3.3	6.2	12.2	3.6	[4/]8.4	--	--	.9
1963	52.7	.7	1.6	6.7	.3	[2/]14.3	.7	4.9	11.1	2.6	[4/]9.3	--	--	.5
1965	56.6	.7	.6	6.3	.5	[2/]14.5	2.1	6.3	13.2	1.9	[4/]9.3	--	--	1.2
1966	55.4	1.1	.7	4.8	.5	[2/]14.7	2.3	5.8	12.8	1.8	9.7	.2	--	1.0
1968	47.6	1.0	.6	3.9	.5	10.2	2.1	5.2	9.0	1.3	8.3	.2	4.0	1.3
1970	37.0	.3	1.3	3.6	.3	6.1	1.4	3.8	9.0	.9	7.7	.2	1.9	.5
1972	42.3	.6	2.4	3.1	.7	6.3	1.3	5.3	9.4	1.2	10.1	.2	1.5	.2
1974	67.5	.9	24.3	2.6	.5	4.6	1.8	5.7	11.9	2.3	11.1	.1	1.3	.4
1976	66.3	.9	21.5	2.2	1.0	4.6	1.4	6.3	12.4	1.4	12.1	.1	1.3	1.1
1980	58.7	.8	20.0	2.1	1.0	4.4	1.3	2.1	11.9	1.5	9.7	2.0	1.5	.4
1984	50.2	1.5	8.3	2.5	.5	4.2	1.0	.4	10.8	1.8	15.0	2.3	1.3	.6

[1/] International 1/4-inch rule.

[2/] Includes paper birch.

[3/] Includes soft maple.

[4/] Includes white oak.

[5/] Includes ash and cottonwood.

Table 6.--Percent of veneer log production and receipts by species group, Lake States, 1956 and 1984

(In percent)

Species group	Production		Receipts	
	1956	1984	1956	1984
Ash	0.9	2.5	0.8	2.9
Aspen	1.0	13.6	0.9	16.5
Basswood	13.0	3.8	11.5	4.9
Beech	7.2	1.3	6.2	1.1
Birch	25.7	9.3	30.9	11.0
Cottonwood	2.7	1.6	3.2	2.1
Elm	12.2	.9	11.1	.8
Hard maple	25.4	20.3	23.8	21.5
Soft maple	4.7	2.9	5.1	3.5
Oak	5.7	30.2	5.4	34.5
Other species	1.5	13.6	1.1	1.2
All species	100.0	100.0	100.0	100.0

Table 7.--Production and disposition of softwood and hardwood veneer mill residue by type of residue and use, Lake States, 1984

(In thousand tons green weight)

State and type of use	Wood residue						Bark	
	Total		Coarse[1]		Fine[2]			
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Wisconsin								
Fiber products	--	9.84	--	2.26	--	7.58	--	--
Industrial fuel	0.20	48.21	--	15.36	0.20	32.85	0.09	18.39
Domestic fuel	.13	3.33	0.13	3.07	--	.26	--	.12
Miscellaneous[3]	--	6.13	--	5.23	--	.90	--	.16
Not used[4]	--	--	--	--	--	--	--	.28
Total	.33	67.51	.13	25.92	.20	41.59	.09	18.95
Minnesota								
Industrial fuel	--	5.87	--	2.23	--	3.64	--	1.68
Domestic fuel	--	.12	--	.12	--	--	--	--
Not used[4]	--	.15	--	--	--	.15	--	.04
Total	--	6.14	--	2.35	--	3.79	--	1.72
Michigan								
Fiber products	--	.65	--	--	--	.65	--	.26
Industrial fuel	--	16.17	--	.08	--	16.09	--	7.06
Domestic fuel	--	6.97	--	6.97	--	--	--	.24
Miscellaneous[3]	--	3.94	--	3.65	--	.29	--	.22
Not used[4]	--	.14	--	--	--	.14	--	.06
Total	--	27.87	--	10.70	--	17.17	--	7.84
All Lake States								
Fiber products	--	10.49	--	2.26	--	8.23	--	.26
Industrial fuel	.20	70.25	--	17.67	.20	52.58	.09	27.13
Domestic fuel	.13	10.42	.13	10.16	--	.26	--	.36
Miscellaneous[3]	--	10.07	--	8.88	--	1.19	--	.38
Not used[4]	--	.29	--	--	--	.29	--	.38
Total	.33	101.52	.13	38.97	.20	62.55	.09	28.51

[1] Suitable for chipping, such as veneer cores.

[2] Not suitable for chipping, such as veneer clippings.

[3] Livestock bedding, mulch, small dimension, and specialty items.

[4] Includes residue burned as waste.

Table 8.--Production and imports of veneer logs, Central States, 1984

(In thousand board feet)[1/]

Species and destination	Total receipts[3/]	Production by States[2/]					Imports		
		Illinois	Indiana	Iowa	Missouri	Regional total	Lake States	Other U.S.	Total imports
Pine									
Indiana	304	--	--	--	--	--	--	304	304
Illinois-Iowa-Missouri	72	--	--	--	--	--	--	72	72
Exported[4/]	--	--	21	22	--	43	--	--	--
Total	376	--	21	22	--	43	--	376	376
Ash									
Indiana	585	38	334	--	--	372	3	210	213
Illinois-Iowa-Missouri	19	--	--	--	3	3	16	--	16
Exported[4/]	--	31	119	--	--	150	--	--	--
Total	604	69	453	--	3	525	19	210	229
Basswood									
Indiana	14	--	14	--	--	14	--	--	--
Exported[4/]	--	11	--	130	--	141	--	--	--
Total	14	11	14	130	--	155	--	--	--
Beech									
Exported[4/]	--	--	116	--	--	116	--	--	--
Total	--	--	116	--	--	116	--	--	--
Black cherry									
Indiana	1,098	--	13	--	--	13	91	994	1,085
Illinois-Iowa-Missouri	33	--	--	--	--	--	33	--	33
Exported[4/]	--	--	22	--	--	22	--	--	--
Total	1,131	--	35	--	--	35	124	994	1,118
Butternut									
Illinois-Iowa-Missouri	1	--	--	--	--	--	1	--	1
Total	1	--	--	--	--	--	1	--	1
Cottonwood									
Indiana	415	--	326	--	--	326	--	89	89
Illinois-Iowa-Missouri	1,732	11	--	--	1,653	1,664	--	68	68
Exported[4/]	--	--	57	23	--	80	--	--	--
Total	2,147	11	383	23	1,653	2,070	--	157	157
Elm									
Indiana	72	--	20	--	--	20	46	6	52
Illinois-Iowa-Missouri	50	--	--	5	--	5	45	--	45
Total	122	--	20	5	--	25	91	6	97
Gum									
Indiana	184	--	166	--	--	166	--	18	18
Exported[4/]	--	--	--	--	3	3	--	--	--
Total	184	--	166	--	3	169	--	18	18
Hard maple									
Indiana	551	--	73	--	--	73	466	12	478
Illinois-Iowa-Missouri	18	--	--	--	--	--	18	--	18
Exported[4/]	--	--	146	25	--	171	--	--	--
Total	569	--	219	25	--	244	484	12	496
Pecan									
Indiana	3,778	53	377	--	34	464	3	3,311	3,314
Exported[4/]	--	39	49	--	14	102	--	--	--
Total	3,778	92	426	--	48	566	3	3,311	3,314

(Table 8 continued on next page)

(Table 8 continued)

Species and destination	Total receipts[3]	Production by States[2]: Illinois	Indiana	Iowa	Missouri	Regional total	Imports: Lake States	Other U.S.	Total imports
Red oak									
Indiana	6,932	1	2,751	--	--	2,752	992	3,188	4,180
Illinois-Iowa-Missouri	849	--	--	58	89	147	672	30	702
Exported[4]	--	234	285	557	23	1,099	--	--	--
Total	7,781	235	3,036	615	112	3,998	1,664	3,218	4,882
Soft maple									
Indiana	377	--	315	--	--	315	3	59	62
Illinois-Iowa-Missouri	14	--	--	--	--	--	14	--	14
Exported[4]	--	--	--	31	--	31	--	--	--
Total	391	--	315	31	--	346	17	59	76
Sycamore									
Indiana	354	--	280	--	--	280	--	74	74
Exported[4]	--	--	49	--	--	49	--	--	--
Total	354	--	329	--	--	329	--	74	74
Walnut									
Indiana	3,582	598	1,373	394	225	2,590	102	890	992
Illinois-Iowa-Missouri	1,099	--	63	386	350	799	176	124	300
Exported[4]	--	82	1,437	69	222	1,810	--	--	--
Total	4,681	680	2,873	849	797	5,199	278	1,014	1,292
White oak									
Indiana	9,089	1,580	3,094	285	63	5,022	87	3,980	4,067
Illinois-Iowa-Missouri	1,278	62	39	47	620	768	239	271	510
Exported[4]	--	506	1,204	61	1	1,772	--	--	--
Total	10,367	2,148	4,337	393	684	7,562	326	4,251	4,577
Yellow birch									
Indiana	3	--	--	--	--	--	3	--	3
Total	3	--	--	--	--	--	3	--	3
Yellow poplar									
Indiana	621	--	565	--	--	565	--	56	56
Illinois-Iowa-Missouri	17	17	--	--	--	17	--	--	--
Exported[4]	--	72	--	--	--	72	--	--	--
Total	638	89	565	--	--	654	--	56	56
Other hardwoods									
Indiana	53	11	16	--	--	27	2	24	26
Exported[4]	--	--	36	--	--	36	--	--	--
Total	53	11	52	--	--	63	2	24	26
All species									
Indiana	28,012	2,281	9,717	679	322	12,999	1,798	13,215	15,013
Illinois-Iowa-Missouri	5,182	90	102	496	2,715	3,403	1,214	565	1,779
Exported[4]	--	975	3,541	918	263	5,697	--	--	--
Total	33,194	3,346	13,360	2,093	3,300	22,099	3,012	13,780	16,792

[1] International 1/4-inch rule

[2] Vertical columns of figures under box heading "Production by States" present the amount of veneer logs cut in each State.

[3] Production minus exports plus imports.

[4] Veneer logs shipped to States outside the Central States and to Canada.

Table 9.--Veneer log production and receipts in the Central States by species, 1980 and 1984

(In thousand board feet)[1/]

Species	Production			Receipts		
	1980	1984	Change	1980	1984	Change
Pine	--	43	43	373	376	3
Ash	506	525	19	507	604	97
Basswood	100	155	55	7	14	7
Black cherry	76	35	-41	1,000	1,131	131
Cottonwood	1,526	2,070	544	1,662	2,147	485
Elm	52	25	-27	696	122	-574
Gum	235	169	-66	254	184	-70
Hard maple	249	244	-5	615	569	-46
Pecan (hickory)	566	566	0	3,404	3,778	374
Red oak	3,418	3,998	580	4,360	7,781	3,421
Soft maple	226	346	120	238	391	153
Sycamore	270	329	59	293	354	61
Walnut	5,104	5,199	95	5,901	4,681	-1,220
White oak	8,582	7,562	-1,020	12,583	10,367	-2,216
Yellow-poplar	825	654	-171	957	638	-319
Other hardwoods	84	179	95	65	57	-8
All species	21,819	22,099	280	32,915	33,194	279

[1/] International 1/4-inch rule.

Table 10.--Veneer log production by species group for selected years, Central States, 1956-1984

(In million board feet)[1/]

Year	All species	Species group										
		Cotton-wood	Elm	Hard maple	Pecan (hickory)	Red oak	Soft maple	Syca-more	Walnut	White oak	Yellow-poplar	Other species
1956	33.1	8.0	0.9	0.8	0.1	1.1	1.8	0.6	10.6	3.4	1.6	4.2
1958	32.4	8.9	.6	1.1	.1	1.0	.5	.5	10.8	2.6	1.1	5.2
1960	39.9	11.2	2.0	1.2	.1	1.5	1.2	2.5	13.2	1.6	1.6	3.8
1963	38.0	7.4	.7	1.6	.8	.9	1.0	1.8	15.5	1.4	2.3	4.6
1966	36.7	6.2	[2/].7	1.4	1.1	2.3	.5	1.0	14.7	1.9	3.0	3.9
1968	37.0	4.1	.7	1.3	3.0	2.1	.4	1.2	16.1	3.6	1.3	3.2
1970	23.5	4.8	.6	.8	1.5	1.3	.5	1.3	8.1	1.7	.8	2.1
1972	26.2	3.5	.5	1.1	2.4	1.7	.4	.7	10.0	3.3	1.2	1.4
1974	29.1	4.0	.7	1.1	1.2	2.9	.6	.9	8.5	5.2	1.2	2.8
1976	27.4	2.3	[3/]	.4	1.0	3.8	.9	.6	7.5	7.7	1.3	1.9
1980	21.8	1.5	.1	.2	.6	3.4	.2	.3	5.1	8.6	.8	1.0
1984	22.1	2.1	[3/]	.2	.6	4.0	.3	.3	5.2	7.6	.7	1.1

[1/] International 1/4-inch rule.

[2/] Estimated.

[3/] Less than 50 thousand board feet.

Table 11.--Veneer log receipts by species group for selected years, Central States, 1956-1984

(In million board feet)[1/]

Year	All species	Species group										
		Cotton-wood	Elm	Hard maple	Pecan (hickory)	Red oak	Soft maple	Syca-more	Walnut	White oak	Yellow-poplar	Other species
1956	44.4	10.9	0.8	1.2	0.6	1.3	0.8	1.3	11.4	6.7	2.8	6.6
1958	41.6	10.2	.6	1.7	.3	1.3	.3	1.2	13.0	4.8	1.9	6.3
1960	50.2	10.4	1.0	2.9	.2	1.4	.5	2.3	17.1	3.6	2.8	8.0
1963	52.2	8.6	1.0	3.1	1.6	.9	.8	2.0	21.2	2.3	2.8	7.9
1966	48.2	6.7	[2/]1.0	3.6	1.6	2.0	.4	1.2	17.9	2.1	4.4	7.3
1968	48.8	5.7	1.0	2.7	4.9	2.3	.5	1.1	18.4	5.2	1.9	5.1
1970	28.0	4.7	.5	1.3	3.0	.8	.6	1.4	10.0	2.0	1.1	2.6
1972	35.1	4.9	.3	2.4	5.7	1.6	.5	.9	11.0	4.0	1.2	2.6
1974	39.7	5.6	.7	1.3	3.6	3.8	.7	1.0	10.1	7.7	1.3	3.9
1976	36.1	2.6	.2	1.4	4.3	3.1	.5	.6	8.3	10.8	1.4	2.9
1980	32.9	1.7	.7	.6	3.4	4.4	.2	.3	5.9	12.6	.9	2.2
1984	33.2	2.1	.1	.6	3.8	7.8	.4	.3	4.7	10.4	.6	2.4

[1/] International 1/4-inch rule.

[2/] Estimated.

Table 12.--Percent of veneer log production and receipts by species group, Central States, 1956 and 1984

(In percent)

Species group	Production		Receipts	
	1956	1984	1956	1984
Cottonwood	24.2	9.4	24.5	6.5
Elm	2.7	.1	1.8	.4
Hard maple	2.4	1.1	2.7	1.7
Pecan (hickory)	0.3	2.6	1.4	11.4
Red oak	3.3	18.1	2.9	23.4
Soft maple	5.5	1.6	1.8	1.2
Sycamore	1.8	1.5	2.9	1.1
Walnut	32.0	23.5	25.7	14.1
White oak	10.3	34.2	15.1	31.2
Yellow-poplar	4.8	2.9	6.3	1.9
Other species	12.7	5.0	14.9	7.1
All species	100.0	100.0	100.0	100.0

Table 13.--Production and disposition of softwood and hardwood veneer mill residue by type of residue and use, Central States, 1984

(In thousand tons green weight)

State and type of use	Wood residue							
	Total		Coarse[1]		Fine[2]		Bark	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Indiana								
Fiber products	0.03	3.77	0.03	3.77	--	--	--	--
Industrial fuel	.58	47.32	.20	17.45	0.38	29.87	0.17	13.58
Domestic fuel	--	.33	--	.33	--	--	--	--
Miscellaneous[3]	--	2.45	--	.04	--	2.41	--	2.23
Not used[4]	--	2.35	--	--	--	2.35	--	--
Total	.61	56.22	.23	21.59	.38	34.63	.17	15.81
Illinois-Iowa-Missouri								
Industrial fuel	--	5.69	--	2.18	--	3.51	--	1.60
Domestic fuel	--	.36	--	.36	--	--	.03	.74
Miscellaneous[3]	.02	.50	.01	.37	.01	.13	--	--
Not used[4]	.13	3.83	.05	1.07	.08	2.76	.01	.58
Total	.15	10.38	.06	3.98	.09	6.40	.04	2.92
All States								
Fiber products	.03	3.77	.03	3.77	--	--	--	--
Industrial fuel	.58	53.01	.20	19.63	.38	33.38	.17	15.18
Domestic fuel	--	.69	--	.69	--	--	.03	.74
Miscellaneous[3]	.02	2.95	.01	.41	.01	2.54	--	2.23
Not used[4]	.13	6.18	.05	1.07	.08	5.11	.01	.58
Total	.76	66.60	.29	25.57	.47	41.03	.21	18.73

[1] Suitable for chipping such as veneer cores.

[2] Not suitable for chipping such as veneer clippings.

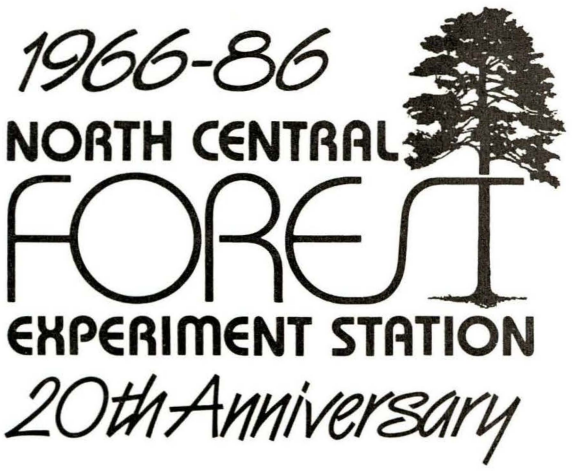
[3] Livestock bedding, mulch, small dimension, and speciality items.

[4] Includes residue burned as waste.

Blyth, James E.; Smith, W. Brad.
Veneer industry and timber use, North Central Region, 1984. Resour. Bull. NC-99. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station; 1986. 16 p.

Shows 1984 veneer log production and receipts by species in the Lake States (Michigan, Minnesota, and Wisconsin) and in the Central States (Illinois, Indiana, Iowa, and Missouri). Comparisons are made with 1980 data. Includes tables showing veneer log production and receipts (for selected years) since 1946 in the Lake States and since 1956 in the Central States.

KEY WORDS: Imports, exports, veneer mills, wood residue, bark.



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